

## Title (en)

Support structure carrying thrust load of compressor with two row thrust roller bearing

## Title (de)

Lageranordnung zum Tragen der Axialbelastung eines Verdichters mit einem zweireihigen Axialrollenlager

## Title (fr)

Disposition de palier supportant la poussée axiale d'un compresseur avec une butée à deux rangées de rouleaux

## Publication

**EP 1418351 A1 20040512 (EN)**

## Application

**EP 03025685 A 20031107**

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## Abstract (en)

A support structure carrying a thrust load of a compressor has a swash plate (103) which contributes to a compressing operation by rotating according to rotation of a rotating shaft (104) which is rotatably supported by a housing (102). The swash plate (103) is rotatably supported with respect to the housing (102), and the support structure includes a thrust roller bearing (1) having double-row rollers (2a,2b). The support structure carrying a thrust load of a compressor and the thrust roller bearing are thus obtained, with an improvement in inflow and outflow of a lubricating oil, a reduction of the differential slip of the rollers, and an improvement in strength durability. <IMAGE> <IMAGE>

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## Citation (search report)

- [PX] EP 1298334 A2 20030402 - NTN TOYO BEARING CO LTD [JP]
- [XA] DE 1210681 B 19660210 - KLOECKNER HUMBOLDT DEUTZ AG
- [XY] GB 444292 A 19360318 - HOFFMANN MFG CO LTD, et al
- [XY] DE 3134625 A1 19830414 - SCHAEFFLER WAEHLZLAGER KG [DE]
- [A] US 1380622 A 19210607 - WINN CHARLES A
- [A] US 5233913 A 19930810 - MUIRHEAD HUGH J [US]
- [A] US 4042309 A 19770816 - HIRAGA MASAHARU
- [A] US 5094590 A 19920310 - CARELLA THOMAS J [US], et al
- [XY] PATENT ABSTRACTS OF JAPAN vol. 1998, no. 14 31 December 1998 (1998-12-31)
- [Y] PATENT ABSTRACTS OF JAPAN vol. 2000, no. 03 30 March 2000 (2000-03-30)
- [AD] PATENT ABSTRACTS OF JAPAN vol. 2002, no. 07 3 July 2002 (2002-07-03)

## Cited by

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